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German Democratic Republic

DESCRIPTION OF THE LOW-SHAFT FURNACES AT THE METALLURGICAL COMBINE WEST (3 pp; German;

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This document consists of a photostated typewritten report on the Metallurgical Combine West in Calbe/Saale, giving a detailed description of the low-shaft furnaces to be used at the plant.

The report points out why these furnaces are being built at the Calbe plant. At present, black coal coke for metallurgical use must be imported to East Germany, resulting in a negative factor in East Germany's trade balance. The Calbe plant is being built in an effort to use domestic raw materials. Therefore, this location was chosen, since it is in the area of large brown-coal deposits. There is no shortage of brown coal in East Germany.

Results of experiments carried out as preparatory work for the Metallurgical Combine West have confirmed the usability of brown coal coke in the smelting of iron, provided the pressure on the coke is not as heavy as it would be in a regular blast furnace, which is about 30 meters high, and if special grates can be used. (Details are given on experiments with special grates.)

The low-shaft furnaces to be built - two furnaces to begin with - will be about 18 meters high. (A detailed technical description of the low-shaft furnaces is given.) Each of the two furnaces will be able to smelt 750 tons of ore daily. Because the ore to be used is very poor in iron content, special dressing is necessary, which will be done according to the Krupp-Renn process. (A description of the process is given.)

Two batteries of five low-shaft furnaces each are to be built in 1951. Completion dates for the furnaces can be met because work is being carried out in three shifts. It is doubtful, however, whether normal operation of all 10 furnaces will result, because the first of the completed furnaces will still be in experimental operation in July 1951 [sic]. According to the experiences gained from normal operations of this furnace, all others will be equipped for operation.

After completion of the first two batteries of low-shaft furnaces, construction of two more batteries of five low-shaft furnaces each will be started immediately.

The Five-Year Plan provides for a production capacity of 400,000 tons of pig iron for the 20 furnaces in 1952; this capacity, however, is to be increased within the following years.

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